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GROUP VIOLENCE, ETHNIC DIVERSITY AND CITIZEN PARTICIPATION: EVIDENCE FROM INDONESIA

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ABSTRACT

We study the impact of violent conflict on social capital, as measured by citizen participation in community groups, defined by four activity types: governance, social service, infrastructure development and risk-sharing. Combining household panel data from Indonesia with conflict event information, we find an overall decrease in citizen contributions in districts affected by group violence in the early post-Suharto transition period.

However, participation in communities with a high degree of ethnic polarization is less affected, and is even stimulated for local governance and risk-sharing activities. Moreover, individual engagement appears to depend on the involvement of other members from the same ethnic group, which points toward building of intra-ethnic social networks in the presence of violence.

Finally, our results show the danger of generalization when dealing with citizen participation in community activities. We find a large variety of responses depending on the activity and its economic and social functions. We also find large observed and unobserved individual heterogeneities of the effect of violence on participation. Once an appropriate nomenclature of activities is used and controls for heterogeneity are applied, we find that the ethnic and social configuration of society is central in understanding citizen participation.

1. Introduction

Scholars and practitioners increasingly advocate bottom-up development approaches based on the active involvement of citizens. Local groups and networks thereby make a difference especially when state and market institutions are absent or non-functional. For instance, community initiatives can help to overcome shortages in the provision of local public goods and services. In the absence of formal credit and insurance markets, networks of mutual assistance also allow for productive investments and mitigation of income shocks.[1]

However, the well-known incentive problems that plague collective action also exist at the local level. And although an extensive literature has investigated collective incentives, the understanding of the inefficiencies in local collective action is still quite limited.[2]

Collective action suffers not only from inefficiencies, but also from diverse external shocks that may unbalance local institutions. A specific kind of shocks is related to violent conflicts. This paper addresses an issue that has attracted relatively little attention in the literature. Using household and community panel data from Indonesia, we study potential impacts of violence on citizen participation in a diverse set of community groups. Looking at the impact of violence on community activities thereby informs us about hidden mechanisms and determinants of local collective action in the Indonesian context.

It is well admitted that violent conflict may disrupt markets and economic contracts, in particular by jeopardizing property rights and destroying capital and organizations. From a theoretical standpoint, Lavie and Muller (2011a, 2011b) have shown how income opportunities occurring in violent environments may incite individuals to give up their usual productive activities in order to participate in fighting instead. Micro-level studies find that heightened insecurity in conflict areas severely impedes market access of local producers (e.g., Verpoorten, 2009, for Rwandan cattle markets). On a more global scale, the substantial decline in market exchange is illustrated by a huge slump in international trade flows in those countries affected by conflict (Blomberg and Hess, 2006). It is less known whether and how violence affects community group activities. This is notably important because if such activities show a

[1] More general effects of citizen participation in local groups on economic growth have been advocated by Putman (1993), based on a comparison of Northern and Southern Italy. However, Knack and Keefer (1997), using data on 29 market economies from the World Value Survey, do not find any significant effect of these activities on growth. This debate is hence still open.

[2] See Lin and Nugent (1995), and Banerjee, Yyer and Somanathan (2008) for overviews.

higher resistance to violence than market institutions, they could replace markets in some drastic contexts.

In general, civil wars are likely to severely rupture the social fabric of society. Colleta and Cullen (2000) provide case study evidence from Cambodia, Guatemala, Rwanda, and Somalia that illustrates how social cohesion and communal trust can be eroded in societies plagued by civil war. However, conclusions on a generally negative effect of violent conflict on social cohesion and political participation have been called into question. Using national account data from Uganda, Collier (1999) distinguishes war-vulnerable and war-safe activities. In their micro-level study on the impact of the Sierra Leone civil war on post-conflict collective action, Bellows and Miguel (2009) find direct victims of war violence to be politically and socially more engaged in their communities than non-victims. Specifically, conflict victimization is shown to positively affect participation in community meetings, voter registration, and membership in social groups.[3] Moreover, Bellow and Miguel's study stands out of the rest of the literature in that they find that neither ethnic nor religious divisions played a central role for citizen participation in Sierra Leone.

Individual engagement is sometimes assumed to arise from the personal experience of violence, rather than from "merely witnessing" it. For example, Blattman (2009) finds that abducted ex-combatants in Northern Uganda show increased political participation (measured by voting, being a community activist, and political employment) after their return. However, the formerly abducted show neither greater involvement in social and religious groups nor higher contributions to local public goods.

Even if the literature generally shows violence exposure to be detrimental to social and economic behaviour, social links may as well be reinforced. This is confirmed by laboratory experiments in Nepal and Burundi. Using behavioural games, Gilligan, Pascuale and Samii (2010) find a greater willingness to invest in trust-based transactions and to contribute to public goods in those communities that were particularly affected by violence during the Nepalese civil war. Similarly, Voors et al. (2012) study behavioural changes in post-war Burundi and find evidence for increased altruism by both individuals and communities that experienced violence during the 1993-2005 civil conflict. These contradictory findings suggest that further empirical

[3] In this paper, social groups correspond to women's groups, youth groups, and farmer's groups (Bellows and Miguel, 2009, p. 1149).

investigations are needed to better understand the actual mechanisms through which violence interacts with social behaviour, notably citizen participation.

Interestingly, such pro-social behaviour found in experiments appears less distinct in those war-affected communities that are ethnically heterogeneous. In a game-theoretical approach, Choi and Bowles (2007) argue that parochial altruism, i.e. altruistic behaviour toward fellow group members and hostility toward other groups, is a dominant evolutionary strategy during inter-group conflict. Further laboratory experimental evidence on this dark side of social capital comes from Bauer, Cassar and Chytilova (2011). In dictator game experiments with Georgian children shortly after the 2008 war with the Russian Federation over Ossetia, war-related experiences are shown to increase one's sense of group identity.

While within-group ties ("bonding social capital") tend to be strengthened in settings of violence, cooperation across group boundaries ("bridging social capital") may be weakened when inter-group tensions increase. Varshney (2001) describes the role of local networks during communal violence in India and stresses the opposite effects of inter-ethnic and intra-ethnic engagement. Local fieldwork conducted by Pinchotti and Verwimp (2007) in rural Rwanda illustrates how social relations between Hutu and Tutsi were most collapsed in the presence of extreme violence, while social ties within the ethnic groups were strengthened. Using cross-sectional data from opinion surveys among Ugandan households, Rohner, Thoenig and Zilibotti (2011) find intensive fighting to decrease general trust and increase ethnic identity.

Then, examining the role of ethnicity and social classes on citizen participation appears to be a useful lead. Most literature in this field does not examine the role of violence or conflict. Baland and Platteau (1997), for instance, develop theoretical models exhibiting the ambiguous impact of wealth inequality on the efficiency of the equilibrium outcome for social groups. Alesina and La Ferrara (2000) study group formation and participation for heterogeneous populations in the US in terms of ethnicity and income. For a wide range of community activities, they find that participation is lower in more unequal or ethnically fragmented localities. Using cross-sectional data from Tanzania, La Ferrara (2002) finds that increasing inequality has an ambiguous effect on group membership for diverse social and economic groups, depending on the type of access rule and the location of disparity changes in the wealth distribution. From a more general perspective, Alesina, Baqir and Easterly (1993) link heterogeneous preferences across ethnic groups to public goods, and validate this link

for US urban areas. This link between group activities and the generation of public goods needs to be explored further. Moreover, other dimensions of heterogeneity, such as age groups, education levels and social classes, could be incorporated in such approaches. Gugerty and Kremer (2008) show for Kenya that outside funding changes group membership, thereby weakening the role of the disadvantaged. Campbell (2009) finds that education correlates with greater civic engagement in the U.S., in part because it is a marker of social status during elections. Using cross-sectional data from Senegal and Burkina-Faso, Arcand and Fafchamps (2012) find that, on average, the more fortunate members of rural societies are more likely to take part in community-based organisations. They also find some evidence of positive assorting according to distance, ethnicity, wealth and household size. Finally, Attanasio et al. (2012) use experimental data from 70 Columbian communities to show that close friends and relatives are likely to join the same risk pooling group.

Robust evidence on the various relationships between conflict violence (and other shocks) on the one hand, and social capital on the other hand, is still scarce. In part, this is because many studies are based on qualitative knowledge, cross sections, small and/or non-representative samples, laboratory experimental designs rather than actually observed choices, as well as on proxy behaviour such as political activities (as in De Luca, 2011). We deal with these limitations in this paper by using large, representative panel data on actual choices for an extended set of activities.

Moreover, relatively little is known about the social consequences of less severe, low intensity forms of conflict, at least when moving away from laboratory experiments or theoretical settings. The analysis of low conflict intensity contexts is important because it allows studying more permanent types of groups, as opposed to severe conflicts, such as fully fledged wars, that destroy most institutions and often leave little to observe. In this paper, the focus is on following stable institutions throughout their history, which includes violence spans, as opposed to looking at participation in new institutions emerging after a war, which is what much of the current literature does.

For Indonesia, Madden and Barron (2002) document the social impact of sporadic, but widespread violence in the province of Lampung after the 1998 fall of the New Order regime. They report a mixed effect of how spontaneous violence, armed robbery, and vigilantism affect local relations and networks. While within-group cooperation increased, social interactions across ethnic groups deteriorated. Chen (2010) tests a model in which group identity in the form of religious intensity plays the

role of ex-post insurance, after the 1997-98 Indonesian economic crisis. However, the link between violence in the immediate post-Suharto era and local social relations has not been analysed quantitatively. We fill this gap with hard empirical evidence in this paper.

The remainder of this paper is structured as follows. The next section describes the data and provides background information on community activities in Indonesia. We then turn to our estimation strategy in Section 3. In Section 4, we discuss our empirical results from the regression analysis. Finally, Section 5 concludes.

2. The Data

2.1. Community Participation Data

Local mutual cooperation has a long tradition in Indonesia (Bowen, 1986). The New Order regime used to mobilize the underlying ethic (*gotong royong*) of this tradition to encourage development strategies based on collective solidarity and reciprocity. Local development initiatives were also a response to rising inequality (Cameron, 2000) and the lasting impacts of the 1998 financial crisis on poverty (Ravallion and Lokshin, 2007). Such development initiatives were intensified by the 2001 Decentralization Laws that transferred many public and social decisions to local institutions.

We study the functioning of these local groups using data from the *Indonesian Family Life Survey* (IFLS), a large-scale, longitudinal household and community survey representative of about 83 per cent of the Indonesian population[4] (Strauss et al., 2004). Using single waves of the IFLS data, Beard (2005, 2007) provides an insightful overview of the Indonesian context in her discussion of citizen engagement in local groups. She focuses on time and money spent to the benefit of these groups, rather than on mere participation. Specifically, we use the second (IFLS2 in 1997) and the third wave (ILFS3 in 2000) of the IFLS. This allows us to capture information contemporary to the 1997 financial crisis and the outbreak of violence in the aftermath of President Suharto's resignation in May 1998.

Since the conflict data we draw on is not available for those Indonesian provinces with negligible levels of communal violence (see Sub-Section 2.2.), our

[4] The IFLS includes all provinces of Java, the provinces of North, West, and South Sumatra, and Lampung on Sumatra, the islands of Bali and Nusa Tenggara Barat, as well South Sulawesi and South Kalimantan. The least densely populated regions and the conflict provinces of Aceh, Malukku and East Timor were excluded for cost efficiency and security reasons, respectively.

analysis focuses on the main island of Java, the islands of West Nusa Tenggara, and the province of South Sulawesi. This provides us with a sample of 15,508 adult respondents from 5,026 households, of which 9,466 individuals are observed in both selected IFLS waves. The community survey additionally offers detailed information on the characteristics of the 197 communities in the sample. An IFLS community/village refers to an enumeration area (EA) that was randomly chosen from a nationally representative sample frame used in the 1993 SUSENAS (National Household Survey). Each EA includes between 200 and 300 households (Strauss et al., 2004). The fact that we avail of a representative sample for a large population is important as it is rare in this literature, where most micro-studies are either concentrated geographically or correspond to non-random, small laboratory sets of subjects.

During the second IFLS wave, in 1997, a module on citizen participation was included for the first time. It provides information on individual participation in nine different community-level activities. These activities can be grouped into four (mutually non-exclusive) categories: local governance organizations, social services, infrastructure development initiatives and mutual insurance groups.

The first category of local governance organizations comprises community meetings and the women associations (*Pendidikan Kesejahteraan Keluarga*, PKK). Community meetings are held at different local levels and are usually led by an elected local resident. They provide a platform to discuss issues relevant to the community and to decide collectively on strategies for action. The women associations can be seen as related insofar as the wife of the Community Meeting leader is automatically the head of the PKK. While concerned with any issue of local planning, the PKK deals in particular with the organization of public services, such as informal education or health counselling, which are provided by and for members of the neighbourhood.

The PKK, therefore, is also included in the second category of social services. Additionally, this category includes the mother and child health post organizations (*Posyandu*) and voluntary labour groups. *Posyandu* provides primary health care for young children, including monthly check-ups, vaccination and nutritional supplements, and trains mothers in health and parenting good practices. In return for their service, participating mothers are expected to make administrative or financial contributions. Voluntary labour activities include aspects of both environmental development and social services. The mission of the most common activity, the "Clean Friday Movement", is to clean the village's public facilities and roads. As the PKK and

Posyandu exclusively address women issues, we restrict the sample to female respondents for this category.

A couple of activities recorded in the IFLS refer to provision of public infrastructure. The *Kampung Improvement Program* (KIP) started as a slum-upgrading project in Jakarta and Surabaya in 1968. It was subsequently expanded nationally. It provides investments in physical infrastructure, such as public facilities, roads, drains and water supply. While the focus of KIP is on urban agglomerations, the *Kecamatan Development Program* (KDP) follows a similar approach in poor rural communities. Two further IFLS community activities, the provision of systems for drinking water and for garbage disposal, aim at developing local infrastructure. Since most of these initiatives are typically considered by Indonesians to be 'male' activities, the sample is restricted to men for this category.

The two remaining activities share aspects of mutual insurance and mutual protection: *Ronda*, on the one hand, describes informal security systems organized at neighbourhood or even street level. Supplementing the police, members of these groups carry out voluntary patrols at night to enhance safety within the community. Cooperatives, on the other hand, which may correspond to very diverse types of cooperation, regroup the other risk-sharing activities captured in the survey. While we subsume these two activities under the umbrella of 'mutual insurance', we analyse them separately given their distinct economic functions. Table 1 offers an overview of the categories and provides further information on the included activities.

2.2. Conflict Data

The 1997 Asian financial crisis and the subsequent resignation of President Suharto in May 1998 were accompanied by a period of violent conflicts. Aside from the separatist conflict in Aceh and the ethno-religious conflicts in the Moluccas and Central Sulawesi, communal violence of different intensities affected other parts of the country as well (see Wilson, 2005, for a national overview).

For the quantitative analysis of these conflicts, we use the *United Nations Support Facility for Indonesian Recovery* (UNSFIR)-II Database, which reports incidents of group violence in 14 Indonesian provinces for the 1990-2003 period. Based on a survey of regional newspapers, UNSFIR-II covers "violence perpetrated by a group on another group (as in riots), by a group on an individual (as in lynching), by an individual on a group (as in terrorist acts), by the state on a group, or by a group on

organs or agencies of the state" (Varshney, Panggabean, Tadjoeddin, 2004; p. 7). Hence incidents of "ordinary crime", such as robbery or murder, are not included.

We use conflict deaths as an indicator of severity and aggregate the number of fatalities at district level, as in many cases a more detailed localization of violence is not possible. This implies that we do not deal with direct exposure to violence at individual level and direct interaction with individual decisions, which would certainly be insignificant in this sample since the probability of an individual to directly suffer from violence is very small therein. The resulting conflict indices are then combined with the IFLS data, which leaves us with six provinces covered by both IFLS and UNSFIR-II: West Java, Central Java, East Java, and Jakarta on Java, West Nusa Tenggara and South Sulawesi. These six provinces account for more than 60 per cent of the total number of conflict incidents reported by UNSFIR-II, but were relatively unaffected by highly destructive, fatal violence. Given that we mainly focus on Java and exclude the religious violence in the Moluccas and the separatist's conflicts, the conflict type should be relatively homogeneous in our sample, as far as we can make distinctions about this. Our attempts to disaggregate the violence information into several categories led to too few observations to be useful. Table 3 presents summary statistics for the different conflict indicators used in the regression analysis.

3. The Econometric Approach

The analysis of the determinants of individual participation is conducted separately for each activity category, as well as for security organizations and cooperatives. The propensity of individual *i* to participate in a certain community activity, *k*, in community *j* and year *t* is dependent on the expected net benefit from involvement, B^*:

$$B^*_{ijtk} = X_{it}\beta + V_{jt}\gamma + R_j\delta + T_t\varphi + a_i + v_{t-1,d}\vartheta + \varepsilon_{it}, \quad (1)$$

where X_{it} is a vector of individual and household characteristics, V_{jt} a vector of village characteristics, R_j and T_t are province and time dummies, a_i denotes an unobserved individual effect, ε_{it} is an idiosyncratic error term with mean zero, and β, γ, δ, φ, ϑ represent parameter vectors. The main independent variable of interest is the indicator of conflict, $v_{t-1,d}$, which measures lagged violence at district level. While the

expectations on net benefits are unknown, we observe the individual participation choice, P_{itk}, which equals 1 (participation) if the expected net benefit is positive, and zero (no participation) otherwise:

$$P_{itk} = 1 \; if \; B^{*}_{ijtk} > 0, 0 \; otherwise. \quad (2)$$

An alternative interpretation is that of internal/external selection rules based on observable and unobservable individual and local characteristics. Mixed decision processes by applicants and insiders, as for example in La Ferrara's (2000) model, are therefore encompassed in our setting.

A Random Effects (RE) logit model is applied to estimate (1)-(2). This approach enables us to exploit the panel structure of the data so as to account for unobserved individual heterogeneity that might affect individual engagement. This is potentially important as many participation decisions may be grounded in stable individual characteristics beyond observation possibilities, such as personality, family background, or past personal events. With the RE approach, we expect to achieve a better determination of the studied phenomena and a better control for omitted variables than in cross-section estimation approaches. Note that fixed-effect estimation is not possible in our case as it would correspond to many perfect participation predictions for individuals not changing their participation choice in the observed period. Moreover, introducing fixed-effects for districts is not a fruitful approach here, as we would lose the conflict variables (and other district variables of interest) that are constructed at district level.

The determinants of individual participation are estimated conditionally on individual knowledge of the activity's existence. This may introduce a selection bias if the group of informed respondents differs from the group of the excluded individuals unaware of the activities. However, the restriction on individuals reporting knowledge is informative in itself, thus helping us focusing on the link between prevalent violence and people's decision to engage in their community. For robustness and comparison, we also run the analysis on the full sample.

The fact that we estimate separate models for different, non-exclusive activities implies that we cannot test hypotheses involving coefficient estimates from different activity equations. However, the coefficient estimators are still consistent. While some

efficiency could be gained by simultaneous estimation of all equations, this is not necessary here as the sample size is large enough to yield efficient estimates.

As respondents are asked for their participation in the twelve months prior to the interview, we define violence as the number of fatalities in the two-year period *one year before* the reference period of the IFLS interview.[5] Lagging the conflict variables in that way should mitigate concerns of reverse causality from community participation to violence. We expect this lagging strategy to help address the potential endogeneity issues. Moreover, there is no serious endogeneity issue related to the potential emergence or disappearance of activities (e.g., security groups) at village level in conflict times, as all considered activities are found existent in almost 100 per cent of the survey communities in both IFLS waves.

A related potential estimation problem could arise from the fact that victimization may be selective and correlated with activity participation, in particular because being involved in some community activities may make individuals more visible. Moreover, individuals having experienced violence may have migrated out in large proportions. These issues are controlled for by examining various subsamples of individuals more or less likely to suffer from such selection. We find our results robust to these checks.

Endogeneity and selection bias issues may generally be seen as originated from missing variables. These issues are attenuated in our study by several elements. First, we introduce province, time and individual effects to control for unobserved heterogeneity of individuals and situations that may cause endogeneity or selection bias. Second, we incorporate a very large set of correlates (56) in the regressions, likely to yield greater control than normal. Third, as mentioned above, we lag the variables most likely to have endogeneity issues in a context of non-stationary violence patterns. Fourth, a series of alternative sub-samples and conflict coefficients are employed to test the robustness of our findings. Fifth, since the conflict data come from another and more aggregated source than the household survey, there is little likelihood of endogenous conflict variables specifically at household level.

Sixth, we check that there are no problems at the aggregate village level with respect to these issues. For example, we find the aggregate correlation between violence

[5] For example, the IFLS interview conducted in December 2000 implies using a conflict indicator that covers incidents of violence during the January 1998 - December 1999 period. The UNSFIR data on communal violence is only available until 2003, which precludes the use of the 2007 IFLS wave. Introducing long lags would result in missing out the period of most intense violence in 1997-2000.

and out-migrations to be small and insignificant. The share of IFLS2 respondents that out-migrated between 1998 and IFLS3 is 11.52 % on average in districts with no violence and 11.51 % in districts with high intensity of violence. Similarly, the sample attrition appears not to be correlated with violence at district level. The proportion of individuals observed in IFLS2 and no longer observed in ILFS3 is 11.55 % in districts with no violence and 12.22 % in districts with high intensity of violence, with the difference being non-significant. Besides, restricting the sample to permanent respondents yields similar estimates as what is reported in the next section.

Finally, we introduce instrumental variables to test the robustness of our results and to verify that the above measures sufficiently account for potential endogeneity in the model. For this, we rely on indicators of conflict intensity in neighbouring districts, which are assumed to (i) be related to local levels of conflict through spatial spill-over effects; and (ii) have no impact on citizen's participation in 'domestic' community groups. The assumptions are supported by the large geographical size of districts that suggests that news about faraway violence should not significantly affect participation in local groups. We now turn to our empirical results.

4. Empirical Results

4.1. Descriptive Statistics

Table 2 describes the prevalence of each activity at village level and the distribution of individual participation across the sample. Information on the prevalence of these activities is gathered from two levels: an interview with the village head from the IFLS Community-Facility Survey on the one hand, and the reports on activity prevalence and individual participation from the individual respondents on the other.[6] The resulting figures confirm an almost universal prevalence of all types of activities during both survey years. The one exception is the cooperatives, which are present in 71 per cent (1997) and 79 per cent (2000) of the villages, respectively.

Conditional on individual knowledge of existing activities, we observe significant differences in participation rates across activity categories and over time.[7] In 1997, local governance events and social services are frequented by around 50 per cent

[6] Additionally, the interview with the head of the women's group provides information on the existence of cooperatives. We therefore assume the prevalence of an activity when either the village head states the existence or when at least one surveyed village member reports participation.

[7] Muller and Vothknecht (2010) thoroughly investigate the joint determinants of knowledge and participation in basic activities in Indonesia, and the relationship of knowledge and participation.

of those individuals aware of their existence. Participation in activities related to infrastructural development and neighbourhood security groups is substantially higher, while comparably low participation rates are reported for cooperatives. We observe a substantial decline in citizen participation between 1997 and 2000. Across categories, people appear less willing to engage in common activities during the early phase of the country's transition. We include a time dummy in the regression analysis to distinguish this general trend in the post New Order period, in particular from the effect of violent conflict.

Figure 1 shows the total number of conflict-related fatalities in our sample for the 1990-2003 period. We can see an increase in conflict deaths in 1997, coinciding with the outbreak of the Asian financial crisis. The number of fatalities peaks in the first years after President Suharto's fall, before the level of violence tends to decrease again from 2001 onwards. Fatal violence is thereby highly locally concentrated: out of the 96 districts in the sample, only 11 districts report ten or more deaths from group violence in the years 1998 and 1999, while more than 50 per cent had no fatalities at all. As a matter of fact, we observe an average of only 1.3 fatalities per district once the 1998 May riots in Jakarta are excluded (Table 3).

Figure 2 depicts the distribution of violence across the regions included in the analysis for the 1998-1999 period. Aside from the capital city, violence was predominantly observed in the western and central parts of Java, while large parts of East Java remained relatively peaceful. The islands of West Nusa Tenggara uniformly show low conflict intensities; ten fatalities are reported from the northern districts of South Sulawesi, Luwu und North Luwu. Finally, Table 4 reports descriptive statistics for the variables used in the regression analysis that we now discuss.

4.2. Base Random Effect Logit Regression Results

We run separate random-effect logit regressions on individual participation for each constructed activity category.[8] Our base regression results are presented in Table 5. Many variants of these estimates have been tried, e.g. with adopting different error

[8] Beard (2005, 2007) estimates ordinary logit models of citizen participation in Indonesia with a much reduced set of correlates as compared to ours. In particular, there is no violence variable in her specification. Also, as she does not avail of panel data, her estimates do not control for unobserved individual heterogeneity, a crucial component of individual decisions. Finally, our nomenclature of activities differs. However, we find similar qualitative signs of coefficients for general participation in the case of several demographic and education variables, which is reassuring.

shapes and correlation hypotheses, or OLS linear regressions. Indeed, as Manski (1997) showed, inference in such dichotomous-variable models remains possible with general specifications as long as errors are time-stationary with unbounded support and some explanatory variables vary over time. However, Chamberlain (2010) demonstrated that if the support for the observed predictors is bounded, then identification (as long as efficient and fast-converging estimation) is possible only in the logistic case when there is unrestricted distribution of random effects. This leads us to favour the report of the random-effect logit estimates. Nonetheless, the qualitative estimated effects are robust to the above changes of specification. The estimated marginal effects for the individual, household, and village level control variables are in line with expectations and previous findings from the literature, even though our specification is much richer than what is found elsewhere.

The proportion of the total variance of errors that can be attributed to unobserved individual heterogeneity through individual random effects is substantial. It ranges from 23 % to 60 % depending on the considered activity, with the exception of infrastructure groups. This suggests that many of the decision determinants originate in unobserved individual characteristics that are stable over time. Incorporating individual random effects is also important as it allows us to control for relevant unobserved village or district characteristics that do not vary or that vary little over time. This is the case for local unemployment rates, local religious composition, local population density, and so forth.

We observe strong effects for age, gender and the individual's position within the household, which point to societal role models that encourage or discourage participation in village life. On the one hand, participation in most activities further requires a minimum level of skills. On the other hand, involvement is increasing with educational attainment (although with higher education individuals seem to drop out from security groups).

Citizen participation is obviously driven by specific individual needs related to occupation, family characteristics or special situations, which can all be addressed through different community activities. Recent migrants, as well as members of ethnic minorities,[9] are less likely to participate, especially in governance and risk-sharing

[9] Information on individual ethnicity is obtained from IFLS4 (collected in 2007/2008); the share of the three main ethnicities in each village/neighborhood is extracted from the IFLS2 community survey. As no information on ethnicity is available from IFLS3, we assume stable ethnic composition of villages between 1997 and 2000.

activities, perhaps because of different needs or weaker network access. The economically better off are the most likely to be involved in local decision-making, while being less present when it comes to the improvement of local infrastructure. Finally, we find relatively few village-level effects, which are partly absorbed by the highly significant province dummies and individual random effects.

4.3. The Impact of Violence

In the base specification, we include two dummy variables to control for the impact of prevalent violence on citizen engagement: districts with fewer than 10 reported fatalities form the group of "low intensity conflict" districts, while districts with ten or more fatalities are categorized as "high intensity conflict" areas. We tried other dichotomies of districts by violence severity, but they did not improve inferences. Such separation is potentially important as there may be thresholds under which violence does not affect most activities, for example if isolated incidents are not interpreted as a signal of a local violent context. Using the number of fatalities (and the number of incidents as a continuous variable) yields less significant results. Besides, we cannot normalize fatalities by the district size or the distance since these data are not available. We thus stick to our two discrete variables describing the number of fatalities.

On the whole, the estimated conflict coefficients show substantially lower individual involvement in those districts affected by violence. This significant negative effect of conflict on civic engagement, increasingly intensive with conflict level, is found across activity categories, with the exception of participation in cooperatives in high intensity conflict areas, in which case the effect is insignificant.

4.4. The Role of Ethnic Polarization

In the next step, we turn to potentially distinct impacts of violence on community participation in ethnically diverse areas. This is important because much of the violence in Indonesia is commonly associated with tensions across ethnic groups. In this case, local tensions might hamper cooperation both among and across ethnic groups. For this purpose, the measure of ethnic polarization, *PQ*, proposed by Reynal-Querol (2002) is calculated for each community, *j*:

$$PQ_j = 4 \sum_{i=1}^{n} s_i^2 (1 - s_i), \qquad (3)$$

where s_i is the relative size of the i-th largest ethnic group and n is the number of ethnic groups in community j.[10] Ranging between 0 and 1, a higher value of the PQ index indicates a more ethnically polarized community, with PQ equal to 0 for an ethnically homogeneous community and PQ equal to 1 for a community with two ethnic groups of the same size. When this measure is included in the regression framework, Table 5 shows an overall positive relationship between ethnic polarization and citizen engagement across all types of local groups, except for security groups. Cooperatives, in particular, are more frequented in highly polarized communities. Interestingly, dummies for specific ethnic groups, or a dummy whether the respondent belongs to the ethnic minority in the village, are not significant. Thus, polarization seems to be the relevant concept for capturing ethnic interaction in that case.

In order to assess the role of ethnic polarization for community participation in conflict-affected areas, we interact the conflict indices with a dummy variable for high ethnic polarization.[11] Table 6 presents the results for the polarization and conflict variables only. As the inclusion of interaction terms in non-linear regression models leads to biased estimates of marginal effects (Norton et al., 2004), we report the unbiased coefficient estimates here instead. When adding the interaction terms to the base regression setup, the negative impact of communal violence on citizen participation is partly offset in those conflict-affected communities with a high degree of ethnic polarization. In contrast to the previously found decrease in participation in local governance organizations and social services in conflict regions, participation is found to be hardly affected in villages characterized by a high degree of ethnic polarization. On the whole, the negative effect of conflict on community participation turns out to be significantly stronger in ethnically homogeneous areas.

The robustness of these findings is supported by a series of alternative specifications. Table A1 in the Appendix presents the estimated marginal effects of the conflict variables for different sub-samples and conflict definitions. Since the main trends hold when the capital city of Jakarta is excluded and when the sample is restricted to the Javanese provinces (Table A1, Panel I and II), the findings are not

[10] The calculation of some village characteristics, e.g., ethnic polarization, is based on the survey sub-samples in each village. Although these sub-samples were drawn randomly, and are therefore representative, they involve some small sampling variations which are not accounted for in the estimation. However, since we have 197 such villages and on average about 60 interviewed individuals in most villages, we expect these random variations to be smoothed out and not to affect the analysis substantially.

[11] The high polarization dummy equals 1 if $PQ > 0.5$, which is the case for 28.5 per cent of the villages in our sample.

entirely driven by a single conflict region. Results are also confirmed for a five fatalities threshold from low to high intensity violence and for a continuous indicator of the number of fatalities and its squared term (Table A1, Panel III and IV). Further, we repeat the analysis for the whole sample, i.e. including individuals without knowledge of activity existence (Table A1, Panel V). The results are similar to the estimates from the main regressions and mitigate concerns of sample selection biases. The use of the Herfindahl index of ethnic fragmentation[12] as an alternative way of capturing ethnic diversity results in estimates similar to those obtained with the *PQ* measure (Table A1, Panel VI). Finally, media reports put some emphasis on the victimization of Chinese households during violence. The Chinese community may be more visible and vulnerable because of its presence in trade activities throughout the country. However, close examination of the data clearly shows that Chinese households cannot drive the bulk of our results related to the role of ethnicity. The group of ethnic Chinese only represent 0.7 per cent of the respondents in the sample, and an additional dummy for ethnic Chinese is insignificant in all specifications.[13]

As the marginal effects estimates of interaction terms in non-linear models are biased, we instead investigate the magnitude of the observed effects of violence by referring to participation probabilities. Based on the fitted regression values, the probabilities of participation are calculated for each individual and category of interest. We then compare the average estimated probabilities in conflict-affected regions to a counterfactual of "no violence" case.[14] Table 7 reports the estimates, disaggregated by low and high conflict intensity and by the degree of ethnic polarization. When ethnic polarization is low (Panel I), average participation is substantially lower in the face of group violence: the participation propensity is up to 15 percentage points lower in high intensity conflict areas than in counterfactual "no violence" areas. This effect is strongest for social services, security groups, and governance activities, whereas cooperatives seem to be hardly affected by violence. In areas with low levels of ethnic polarization and low conflict intensity, a generally lower, while still significant decline in participation is observed.

[12] The index is constructed as $\mathrm{EHHI} = 1 - \sum_{i=1}^{n} s_i^2$, where s_i is the size of the *i*-th largest ethnic group in the community. It is the probability that two randomly drawn individuals belong to different groups.

[13] Another possibility is that violence against Chinese is under-reported in newspapers. However, Panggabean and Smith (2009) also show that anti-Chinese violence was rare and more localized than often thought.

[14] We use the estimated regression model and impose a counterfactual level zero of violence for all districts to calculate counterfactual participation propensities.

A different picture, however, emerges in areas with a high degree of ethnic polarization (Panel II). Irrespective of conflict intensity, average participation probabilities in polarized communities decrease comparably little in the presence of violence. In particular, participation in community meetings appears to be barely affected; the estimates even point to increasing involvement in cooperatives in those districts most affected by violence. While communal violence negatively affects citizen engagement at the local level, the presence of ethnic polarization also seems to spark participation in community groups, especially after conflict.

4.5. Bonding versus Bridging Social Capital

When such an increased engagement in the local community runs along ethnic lines, social networks organized within ethnic groups may be strengthened and existing gaps between ethnic groups may be widened. To address this dark side of social capital in violent environments, we investigate the ethnic composition of communal groups in greater detail. Namely, an indicator is calculated for each activity that measures the engagement of members of one's own ethnic group relative to the engagement of other ethnic groups in the community. In the absence of full information on the membership of local groups, this indicator allows us to capture the relative presence of an ethnic group in each village and each activity.[15] We include this indicator of the ethnic structure of local groups as an additional control variable, and we further interact this indicator with the conflict and high polarization variables.

Table 8 presents the estimated coefficients for the included ethnicity and conflict variables. We find similar effects for those variables and cross-effects already included in the previous regression setup (Table 6), which are therefore confirmed. New here is the relative participation of the own ethnic group in the respective activities, which has an overall positive effect on participation in governance groups, cooperatives, and, less so, in social service groups. There is no influence of this newly introduced regressor on participation in infrastructure groups. Moreover, the sheer size of the own ethnic group, measured as a fraction of the total local population, positively influences community participation in governance, risk sharing and social service activities.

[15] For the indicator, we substract the share of participating respondents in other ethnic groups from the share of participants in the respondent's own ethnic group. Ranging between -1 and 1, a higher value indicates larger relative involvement of the own ethnic group (the indicator equals 1 if all members of the own ethnicity and no member of other ethnic groups report participation, and -1 vice versa). To avoid concerns of endogeneity, we exclude the respondent's own observation from the calculation of participation shares.

When focusing on conflict areas with a high degree of ethnic polarization, we find that citizen participation in governance activities and social services increases substantially with the relative share of participants from the own ethnicity, and especially so in areas with a high conflict intensity. Put differently, the willingness to become involved in certain local groups decreases with the relative engagement of people from other ethnic groups. This finding holds not only for highly polarized regions, but is also found for governance activities in high conflict intensity regions with lower levels of ethnic polarization (Table A2).

The magnitude of this effect is substantial. Table 9 presents average participation probabilities in highly polarized, high conflict intensity areas, by the relative participation share of the respondent's ethnic group. Focusing on local governance and social services, results indicate a decrease in participation by around one third in the presence of violence whenever members of *other* ethnic groups are relatively more involved in these groups. On the contrary, the likelihood of participation increases when activities are relatively strongly frequented by members of the *own* ethnicity. Similar patterns are observed for infrastructure development activities, while participation in cooperatives seems to increase in times of conflict irrespective of the relative involvement of local ethnic groups.

The presence of severe violence hence seems to strengthen bonding networks and to sharpen local divisions along ethnic lines. This result is consistent with Alesina and La Ferrara's (2000) findings for the United States. One possible explanation is that some community meetings and activities are directly motivated by responding to conflict situations. They may help preparing bargaining between groups, contribute to organise fighting and security measures against other groups, or even be held due to protection and insurance motives within specific groups. In these areas of tense opposition between groups, large participation changes can be fostered by violence, ranging from much reduced participation to participation instigation, especially for social services and cooperative activities.

4.6. Other Individual Determinants of Participation in Conflict Areas

Finally, we turn to individual characteristics other than ethnicity that might affect engagement in one's community in the presence of violence. As before, we interact the conflict variables with socio-economic variables of interest, namely individual education, age, and household wealth. Table 10 presents the most relevant

results. While no specific conflict effects for individuals without primary education are found (results not shown), respondents with at least secondary education show a higher propensity to join local cooperatives in high intensity conflict areas (Table 10, Panel I). The well-educated individuals may be better able to use this form of mutual insurance, if only because they are able to perform basic financial calculations, in order to protect themselves against the vagaries inherent to violent conflict. They may also be led to accept executive positions in these groups, which may shield members from the negative consequences of conflict.

Panel II and III of Table 10 illustrate the different effects of violent conflict on community participation of poor and wealthy households, respectively. Poor households, as defined by the first quartile of asset levels, tend to withdraw from infrastructure development projects, which they may perceive as a minor priority in times of violence. However, comparably higher participation of the poor is observed for social services, which most likely supply them with needed assistance in these situations. On the other hand, the well-off, in the fourth quartile of assets may seek for protection of their capital or economic activities through participation in cooperatives and infrastructure groups. They may also be invited to accept responsibilities within these organizations to help the community to respond to the violent context. Finally, their drop out from neighbourhood security organizations might be explained by increasing risks related to engagement and a greater ability to employ private measures of protection.

In a final effort, we attempt to assess the internal homogeneity of different community groups in terms of member characteristics. Therefore, we calculate the mean age, educational attainment, and household equivalent consumption of group members for each activity and community,[16] from which we derive the absolute distance from these group means for each respondent. Table A3 in the Appendix reports the mean age, mean household equivalent consumption and mean educational attainment by type of activity, as well as the average deviation from these group means by participants and non-participants. The group means reveal that the members of cooperatives and community meetings are relatively old, well-educated and wealthy, while the opposite is true for participants in the social service activities.

[16] We only calculate the mean values for those groups for which we observe at least three group members.

The descriptive statistics further show that participants within each activity type are relatively homogenous in terms of age, consumption level and education. Across activities, respondents who report participation are on average significantly closer to the respective group means than non-participants. When we include these indicators into the main regression setup (results not shown), we find highly significant and substantial negative effects of the individual distance from the group mean on the likelihood of participation. Community groups are hence mainly frequented by citizens with similar socio-economic characteristics, while individuals of deviant age, educational background or wealth tend to stay away from community engagement. Interestingly, apart from the ethnic dimensions, we do not find a particularly strong effect of such a gathering of equals in conflict-affected regions.

Clearly, the estimated effects of context characteristics, ethnic group, education, wealth variables – interacted or not with conflict indicators – may allow for diverse interpretations, even though we have sometimes proposed some preferred interpretation lines. An interpretation we have not mentioned yet is that of group capture of some activities. These groups could be ethnic communities specialized in specific activities linked to their economic or political background. Certain social classes may also be better positioned to access some of these social benefits, for example on network, localization or information grounds.

4.7. Robustness of the Results

While we control for a large number of factors likely to drive citizen participation, we cannot fully rule out the existence of unobserved community characteristics that simultaneously cause low participation levels and violent tensions, even with lagged variables. We therefore instrument for conflict using the average conflict intensity in the neighboring districts[17] in order to check the robustness of our results. Indeed, violence in neighboring districts is not likely to affect substantially activity participation in the district of interest because districts are large geographical units, once district-specific violence is accounted for. Moreover, violence phenomena are also likely to be correlated between neighboring districts, since there is no reason why they should stop at the district borders.

[17] Specifically, we calculate the share of neighboring districts with (i) 1-9 conflict-related fatalities, and (ii) 10 or more conflict-related fatalities, and use these variables to instrument for the respective 'domestic' conflict indicators. As data on conflict-related fatalities in neighboring districts is not always available, we lose some 20 percent of the observations. However, previous results also hold with the reduced sample used for the IV estimations.

As the correction for endogenous interaction terms is problematic in binary panel models, we rely on least-square estimation for a more straightforward implementation of IV estimates. We therefore, first, run linear RE regressions on individual participation in the various activities, (i) for comparison with the RE logit results, and (ii) as a baseline for the IV estimates. Similar to Table 6, Table 11 presents the coefficient estimates for the conflict and ethnicity variables. While not efficient, the estimates are consistent and, more importantly, qualitatively turn out very similar to the RE logit results.

In a second step, we instrument for the conflict intensity dummies and the conflict*high ethnic polarization interaction terms using (i) the average conflict intensity in neighboring districts; (ii) the interaction of neighboring conflict intensity and high domestic levels of ethnic polarization; and (iii) the squared terms of these instruments. Table 12 reports the estimated coefficients for the variables of interest. The main findings hold strongly: we find lower participation levels in areas affected by violent conflict, while this effect is more than offset in areas with a high degree of ethnic polarization.

Similarly, the results on the role of the relative presence of the own ethnic group for citizen participation are confirmed (i) when running linear RE regressions (Table 13); and (ii) when instrumenting for conflict with average conflict intensity in neighboring districts (Table 14). In conflict-affected districts, citizens are significantly more likely to get engaged in activities with a strong presence of the own ethnic group, in particular when it comes to local governance, social services, and infrastructure development.

Further, we assess the magnitude of the potential endogeneity of the conflict indicators by running Hausman tests comparing the linear RE and the IV estimates. As expected form the close proximity of RE and IV RE estimates of coefficients, and from the large sample size, the null hypothesis of systematic equality between the estimated coefficients is clearly never rejected throughout (P-values of 0.97 for governance, and almost 1 for the other activities), therefore supporting the consistency of our results without any need to use instruments[18].

[18] Finally, we have also employed an alternative source of data on violence: The PODES village survey, which is collected three times per decade and since 2003 includes a section on conflict and violence. With these data, we can use the 2007 IFLS wave and include an indicator of conflict fatalities at district level. Two thirds of the districts report no conflict-related fatality, and in the remaining third of the districts we

5. Conclusion

This paper analyses how citizen participation in local community activities is affected by low intensity forms of violent conflict. Using micro-level and conflict event data from the Indonesian transition at the turn of the millennium, we find that citizen participation generally decreases substantially in areas affected by group violence during this period. This is true for different types of local groups, ranging from local governance to social services, and risk-sharing activities.

However, in communities with a high degree of ethnic polarization, local involvement in community activities is far less impacted by conflict than in ethnically homogeneous environments. Participation in risk-sharing activities is even rising, perhaps as a response to violence. Individual engagement in community groups is particularly stimulated by the relative presence of one's own ethnic group and discouraged with participation of people from other ethnic groups. Social divisions are hence likely to worsen in times of violence. Beyond ethnic identity, the better-off and the well-educated are found to get further involved in local risk-sharing initiatives in times of severe conflict, while dropping out of other common groups. Local social networks therefore appear to be either threatened or stimulated by the presence of violent conflict, with a greater risk of exclusion for ethnic, social or economic minorities.

Moreover, our results go beyond identifying key determinants of local community activities in Indonesia. They also elicit general insights into how to think about community participation, in particular in the context of violent conflict. Notably, they show the danger of generalization when dealing with local activities. We find a wide variety of responses depending on the type of activity considered and its expected economic or social function. This also raises the need for better and more accurate definitions of 'violence effects' in the literature, starting with the type of violence and the type of the local initiative. Moreover, we find evidence for interrelations between

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never observe more than five fatalities, which suggests that the PODES conflict data is somewhat inferior to the one we use. However, we ran RE Logit regressions for the three-wave sample. Overall, results (not shown to save space) are similar to the previous results using only IFLS2 and ISFL3. This notably applies to the estimates of the conflict coefficients. Some effects vanish, while the results turn out to be stronger for governance and social services.

the social structure of society and violence, in particular in dimensions of ethnicity, education and wealth. Therefore, beyond studying general 'violence effects,' the social mechanisms through which violence operates and through which people respond to violence should be investigated more closely.

Finally, we find large individual heterogeneity in the effect of violent conflict on activity participation, with both observed and unobserved components of this heterogeneity being substantial in our estimates. This suggests paying greater attention to the distribution of conflict impacts as to account for heterogeneity, which is often neglected in the analysis of global effects.

In particular, in our data, different ethnic groups and different social classes are found to suffer and to respond differently to conflict situations. This occurrence of ethnic influences raises additional questions, as in Kanbur et al. (2011). In the long term, ethnicity is the product of a certain kind of group dynamics. If violence strengthens group divisions, it may instigate the tightening of social groups. In this view, participation in community activities may be a preliminary stage in the emergence of future groups, illustrating the complex interactions of economic and ethnic solidarities in society.[19] An extreme, while plausible, interaction case is the capture of an activity by one ethnic group, or by a minority of community members.

What has been learned about the functioning of community activities by looking at how violent conflict affects them? First and foremost, we found that local community activities are not immune to violence and cannot constitute, by themselves, a sufficient safety net when market and state institutions are disrupted by conflict. We have also learned that there are broad classes of activities that seem to differ in their social and economic responses to a given type of risk, and perhaps to all risks. Establishing a reasoned nomenclature of these activities is clearly a task necessary for avoiding confusing generalizations, and we made a step in this direction.

Another valuable finding is that observed and unobserved heterogeneities are crucial in understanding citizen participation in community activities, and that controlling for heterogeneity reveals diverse and original effects, dependent also on the type of activities. Thus, once these analytical tasks are performed, it can be revealed, as we do for Indonesia, that participation in some activities is stimulated by conflict

[19] Dasgupta and Kanbur (2007) investigate theoretically how community and class divisions may interrelate.

situations, perhaps because they are part of the response mechanisms of various ethnic and social groups to these shocks.

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Table 1: Overview of Community Organizations

CATEGORY	**Activity** *(Indonesian Term)*	**Background Information**
LOCAL GOVERNANCE ORGANIZATIONS	**Community Meeting** Including Village Advisory Board activities *Pertemuan Masyarakat*	Community meetings are organized at various levels. The RT (*Rukun Tetangga*, neighbourhood) is the lowest tier of governmental hierarchy and comprises about 20-50 households. The neighbourhood association is supposed to manage various community matters, and usually also organizes the neighbourhood watches.
SOCIAL SERVICES *(Females Only)*	**Women's association activities** *Kegiatan PKK*	The Women's Family Welfare Organization (PKK) was first promoted in 1972 as a national organization. The PKK is organized at all administrative tiers, from the neighbourhood to the national level, and mainly organizes health and education services.
	Community Weighing Post *Posyandu*	The integrated community health post (*Posyandu*) is run by volunteers and provides preventative health care for young children. There are over 200,000 *Posyandu* spread out in urban and rural areas, in general supported by sub-district health centers and their trained staff.
	Voluntary Labor *(Jumat Bersih)*	*Jumat Bersih* ("Clean Friday Movement") is intended to promote healthy living behaviour with emphasis on personal, domestic and community hygiene starting on Thursday evenings.
INFRASTRUCTURE DEVELOPMENT INITIATIVES *(Males Only)*	**Program to Improve the Village/Neighborhood** Street improvement, public facilities *Program Perbaikan Kampung (KIP, MHT, Konblokisasi)*	The Kampung Improvement Program (KIP) mainly addresses the housing problems of low- and middle-income households. Typical activities include the building or renovation of school and health facilities, the improvement of the living space (lighting, footpaths), or the reduction of housing density. MHT is a part of the nation-wide KIP program.
	System for Drinking Water *Sistem mengelola air untuk minum*	Activities aimed at the improvement of the neighbourhood infrastructure, such as the installation of a public pump system or the construction of public washing areas (MCK, referring to bath, wash, toilet).
	System for Garbage Disposal *Sistem mengelola sampah padat*	Set-up and maintenance of a system for garbage disposal.
MUTUAL INSURANCE	**Neighborhood Security Organisation** *Ronda/Siskamling*	*Ronda*, neighbourhood watches, have a long tradition especially on Java. This non-paid community service is provided by volunteers and typically organized at the neighbourhood or street level. *Siskamling* describes private security units whose guards might receive a small salary and also protect public or business facilities.
	Cooperatives Includes all types and levels of cooperatives *Kooperasi*	Cooperatives encompass a wide range of potential organizations. In general, a cooperative is intended to pool resources and to share risks among a group of actors with similar economic or socials needs. This might include retailers' cooperatives, credit unions, or agricultural cooperatives.

Table 2: Prevalence of Activities and Individual Participation Rates

Category	Prevalence of Activities (%)		Individual Participation			
	1997	*2000*	*1997*		*2000*	
			Obs.[*]	*Share PA*[**]	*Obs.*	*Share PA*
Local Governance	99.5	100.0	5,675	48.2	7,607	30.2
Social Services[***]	100.0	100.0	4,257	52.3	5,244	34.7
Infrastructure Development[****]	96.5	96.5	1,795	77.8	1,979	59.6
Neighborhood Security Groups[****]	98.5	96.5	2,012	73.5	1,197	54.8
Cooperatives	70.5	79.4	1,066	23.1	2,412	13.6

[*] Conditional on the Individual Knowledge of the Existence of Activities.

[**] Participation (PA) equals "1" if engaged in at least one of the activities in a category. Participation is "0" when the respondent is not participating, but aware of at least one of the activities in a given category.

[***] Females only. [****] Males only.

Table 3: Conflict Indicators – Summary Statistics

Variable	n	Mean	Std. Dev.	Min	Max
Whole Sample					
Violence at District level: Number of Fatalities	192	7.8	39.7	0	263
Violence at District level: No fatalities (Dummy)	192	0.625	0.485	0	1
Violence at District level: ≥ 5 fatalities (Dummy)	192	0.089	0.285	0	1
Violence at District level: ≥ 10 fatalities (Dummy)	192	0.057	0.233	0	1
Whole Sample – Jakarta Excluded					
Violence at District level: Number of Fatalities	182	1.3	4.3	0	40
Violence at District level: No fatalities (Dummy)	182	0.648	0.479	0	1
Violence at District level: ≥ 5 fatalities (Dummy)	182	0.060	0.239	0	1
Violence at District level: ≥ 10 fatalities (Dummy)	182	0.033	0.179	0	1
Java Only					
Violence at District level: Number of Fatalities	154	9.5	44.2	0	263
Violence at District level: No fatalities (Dummy)	154	0.617	0.488	0	1
Violence at District level: ≥ 5 fatalities (Dummy)	154	0.097	0.297	0	1
Violence at District level: ≥ 10 fatalities (Dummy)	154	0.071	0.258	0	1

Table 4: Descriptive Statistics

Variable	n	Mean	Std. Dev.	Min	Max
Individual Characteristics					
Age	24974	37.5	16.7	14	111
Sex (1: Male)	24974	0.462	0.499	0	1
No education	24974	0.154	0.361	0	1
Primary education	24974	0.444	0.497	0	1
Junior high school	24974	0.153	0.360	0	1
Senior high school	24974	0.195	0.396	0	1
Higher education	24974	0.054	0.227	0	1
Employment: private worker	24972	0.253	0.434	0	1
Employment: self-employed	24972	0.265	0.441	0	1
Employment: unpaid family worker	24972	0.083	0.276	0	1
Employment: government worker	24972	0.039	0.195	0	1
Hours normally worked per week	24974	28.2	27.9	0	112
Monthly income (in 1,000 Rp.,[a] 2000 Prices)	24973	235.3	717.6	0	30,000
Married	24974	0.643	0.479	0	1
Household head or spouse	24974	0.602	0.489	0	1
Dummy: Seriousness of the respondent not excellent or good[b]	24974	0.223	0.416	0	1
Household Characteristics					
Age household head	9002	47.6	14.5	15	111
Household consumption (adult equivalent, in 1,000 Rp., 2000 Prices)	8507	215.4	282.2	3.5	6,526.3
Household asset value, relative rank in the community	9002	0.522	0.289	0.022	1
Household with farm production	9002	0.349	0.477	0	1
Household with Income from Non-farm Business	9002	0.349	0.494	0	1
Female headed household	9002	0.179	0.381	0	1
Number of household adults	9002	4.0	2.0	1	20
Experience of a shock (natural disaster)	9002	0.281	0.449	0	1
Household has moved to this community in the last 2 years	9002	0.014	0.117	0	1
Household owns a television	9002	0.539	0.499	0	1
Community Characteristics & Province Dummies					
Rural	394	0.389	0.487	0	1
Total population	394	12,867	19,587	825	236,500
Average HH asset value in the village (in Mio. Rp.)	394	71.4	102.3	5.7	1,079.18
Within-village Gini index of asset inequality	394	0.530	0.123	0.171	0.885
Index of ethnic polarization	378	0.354	0.361	0	0.99
Index of ethnic fractionalization	378	0.222	0.240	0	0.82
Province dummy: Jakarta	394	0.175	0.381	0	1
Province dummy: Jawa Barat	394	0.259	0.439	0	1
Province dummy: Jawa Tengah	394	0.183	0.387	0	1
Province dummy: Jawa Timur	394	0.226	0.419	0	1
Province dummy: Nusa Tenggara Barat	394	0.081	0.274	0	1
Province dummy: Sulawesi Selatan	394	0.076	0.266	0	1

[a] Exchange rate in 2000: 1 US-$ ~ 3,000 IDR

[b] As assessed by the interviewer.

Table 5: Base Random Effect Logit Regression Results

DV: ***Participation***	*(1)* ***Governance***	*(2)* ***Social Service***	*(3)* ***Infrastructure***	*(4)* ***Security***	*(5)* ***Cooperatives***
Individual Characteristics					
Age Group: 25-39 Years[a]	0.114***	0.063***	0.059**	0.180***	0.065***
	(0.000)	(0.009)	(0.047)	(0.000)	(0.002) ***
Age Group: 40-65 Years	0.155***	-0.068**	0.095*	0.150***	0.122
	(0.000)	(0.021)	(0.052)	(0.006)	(0.001)
Age Group: >65 Years	0.119**	-0.107**	0.080	-0.101	0.175
	(0.042)	(0.034)	(0.209)	(0.353)	(0.175)
Male	0.354***				-0.010
	(0.000)				(0.138)
No education[b]	-0.145***	-0.147***	-0.038	-0.119**	-0.021***
	(0.000)	(0.000)	(0.361)	(0.018)	(0.006)
Junior High School	0.066***	0.057**	-0.040	-0.068**	0.014
	(0.001)	(0.021)	(0.125)	(0.049)	(0.187)
Senior High School	0.101***	0.057**	-0.026	-0.078**	0.038***
	(0.000)	(0.030)	(0.333)	(0.025)	(0.009)
Higher Education	0.111***	0.012	-0.004	-0.039	0.063**
	(0.003)	(0.806)	(0.923)	(0.508)	(0.049)
Job Category: Private Worker[c]	0.033	0.028	0.140***	0.177***	0.034
	(0.302)	(0.504)	(0.001)	(0.000)	(0.114)
Job Category: Self-Employed	0.064**	0.083**	0.149***	0.138***	0.022
	(0.038)	(0.043)	(0.000)	(0.006)	(0.231)
Job Category: Unpaid Family Worker	0.009	0.011	0.125***	0.006	-0.002
	(0.731)	(0.703)	(0.000)	(0.912)	(0.863)
Job Category: Government	0.164***	0.198***	0.161***	0.179***	0.189**
	(0.001)	(0.004)	(0.000)	(0.000)	(0.030)
Hours worked per week	-0.001	-0.016***	-0.006	0.007	0.000
	(0.697)	(0.000)	(0.182)	(0.254)	(0.967)
Total monthly income (ln)	0.001	-0.004	0.002	-0.005	-0.001
	(0.464)	(0.151)	(0.474)	(0.152)	(0.398)
Married	0.147***	0.382***	0.047	0.100**	0.009
	(0.000)	(0.000)	(0.187)	(0.018)	(0.313)
Head or Spouse of Head	0.138***	0.022	0.022	0.118**	0.023**
	(0.000)	(0.409)	(0.643)	(0.042)	(0.045)
Population Share of one's own Ethnicity in the Village	0.129***	0.100**	0.075	0.097*	0.027
	(0.001)	(0.028)	(0.109)	(0.097)	(0.135)
Seriousness of Answers: not excellent or good	-0.009	-0.032*	-0.051**	0.009	0.006
	(0.542)	(0.065)	(0.025)	(0.738)	(0.418)
Household Characteristics					
Age HH Head: 40-65 Years[a]	0.022	-0.112***	-0.061	0.009	-0.012
	(0.257)	(0.000)	(0.116)	(0.846)	(0.273)
Age HH Head: >65 Years	0.014	-0.143***	-0.069	0.006	-0.021
	(0.643)	(0.000)	(0.245)	(0.916)	(0.023) **
Household Expenditure – 1st Quantile[d]	-0.051***	-0.010	-0.001	-0.023	-0.005
	(0.000)	(0.554)	(0.979)	(0.397)	(0.493)
Household Expenditure – 4th Quantile	0.079***	0.001	-0.050**	0.013	0.000
	(0.000)	(0.959)	(0.045)	(0.666)	(0.986)
Relative Wealth: Asset Value Rank within Village	0.088***	-0.037	0.009	0.006	0.019
	(0.000)	(0.200)	(0.783)	(0.891)	(0.105)
Household with Farm Income	0.013	-0.040**	0.067***	0.048*	0.010
	(0.414)	(0.032)	(0.003)	(0.091)	(0.221)
Household with Income from Non-farm Business	0.005	0.000	0.024	0.011	0.007
	(0.684)	(0.984)	(0.198)	(0.647)	(0.278)
Female Household Head	0.054**	0.172***	0.099***	0.036	0.006
	(0.016)	(0.000)	(0.000)	(0.340)	(0.614)
HH Adults	0.001	0.012***	-0.004	-0.003	-0.001
	(0.654)	(0.000)	(0.267)	(0.552)	(0.421)
Recent Economic Hardship (Crop, Job or Income Loss)	0.031**	0.038**	0.030	0.024	0.006
	(0.020)	(0.019)	(0.103)	(0.286)	(0.341)
Household migrated in the last two yrs to this community	-0.219***	-0.023	-0.017	-0.188	-0.025**
	(0.000)	(0.750)	(0.840)	(0.174)	(0.018)

Continued…	***Governance***	***Social Service***	***Infrastructure***	***Security***	***Cooperatives***
Village Characteristics					
Rural	0.005	-0.001	0.063**	-0.056*	0.016*
	(0.791)	(0.998)	(0.013)	(0.057)	(0.088)
Population Size	-0.003	-0.006	0.005	0.004	0.001
	(0.505)	(0.275)	(0.451)	(0.586)	(0.521)
Average HH Asset Value	0.024**	-0.004	-0.035**	-0.019	-0.007
	(0.025)	(0.742)	(0.020)	(0.306)	(0.189)
Within-Village Gini Index of Asset Inequality	-0.131	0.123*	-0.028	-0.012	-0.054*
	(0.032)	(0.100)	(0.757)	(0.914)	(0.053)
Index of Ethnic Polarization	0.134***	0.160***	0.077*	0.019	0.056***
	(0.000)	(0.000)	(0.062)	(0.685)	(0.001)
Conflict Coefficients					
Low Intensity: 1-9 Fatalities	-0.086***	-0.098***	-0.053**	-0.046*	-0.014**
	(0.000)	(0.000)	(0.011)	(0.064)	(0.027)
High Intensity: ≥ 10 Fatalities	-0.094***	-0.129***	-0.093**	-0.107*	0.013
	(0.000)	(0.000)	(0.025)	(0.054)	(0.320)
Province and Time Dummies					
Jakarta[e]	-0.144***	-0.202***	-0.173***	-0.181***	-0.037***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
West Java	-0.148***	-0.134***	-0.020	-0.052	-0.016**
	(0.000)	(0.000)	(0.462)	(0.171)	(0.037)
East Java	-0.053***	-0.149***	-0.123***	-0.073*	-0.005**
	(0.000)	(0.000)	(0.000)	(0.087)	(0.037)
Nusa Tenggara Barat	-0.078***	0.121***	0.057***	0.023*	-0.005
	(0.000)	(0.000)	(0.000)	(0.087)	(0.626)
South Sulawesi	-0.158***	-0.206***	-0.268***	-0.046	-0.016
	(0.000)	(0.000)	(0.000)	(0.369)	(0.130)
Year 2000	-0.205***	-0.202***	-0.173***	-0.181***	-0.053***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	12100	8628	3414	2851	3195
Individuals	8601	5481	2760	2381	2754
Average Obs. per Individual	1.407	1.574	1.237	1.197	1.160
Rho	0.405	0.304	0.078	0.232	0.604

RE Logit Regression. Reported: marginal effects at mean values. Conditional on activity existence at village level. Longitudinal personal weights used. P-values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.
[a] Reference category: Age Group 15-24 Years, [b] Reference category: Primary education;
[c] Reference category: Individuals not working, [d] Reference category: 2nd and 3rd Quantile.
[e] Reference category: Central Java.

Table 6: Ethnicity and the Effect of Ethnic Polarization in Conflict Areas

DV: ***Participation***	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*
	Governance	***Social Service***	***Infrastructure***	***Security***	***Cooperatives***
Village Characteristics					
Index of Ethnic Polarization	0.40**	0.49***	0.23	0.25	1.18**
	(0.022)	(0.007)	(0.362)	(0.396)	(0.013)
Conflict Variables					
Low Intensity: 1-9 Fatalities	-0.51***	-0.47***	-0.35***	-0.13	-0.62**
	(0.000)	(0.000)	(0.004)	(0.382)	(0.012)
High Intensity: ≥ 10 Fatalities	-0.88***	-0.93***	-0.40	-0.78*	-0.85
	(0.000)	(0.000)	(0.140)	(0.053)	(0.112)
IA: Low Intensity x High Polarization	0.33**	0.22	0.28	-0.29	0.53
	(0.020)	(0.144)	(0.193)	(0.240)	(0.205)
IA: High Intensity x High Polarization	0.69***	0.65**	0.01	0.31	1.96***
	(0.005)	(0.011)	(0.969)	(0.497)	(0.002)

RE Logit Regression. Reported: coefficient estimates. Apart from the conflict*high polarization interaction variables, the same control variables as in Table 5 are included.

Table 7: Mean Participation Probabilities

I. LOW ETHNIC POLARIZATION

Activity	**Low Conflict Intensity Districts**			**High Conflict Intensity Districts**		
	"No Violence" Counterfactual	Mean Participation Probability	*Relative Difference: Violence to Peace (%)*	"No Violence" Counterfactual	Mean Participation Probability	*Relative Difference: Violence to Peace (%)*
Local Governance	34.0	26.5	*-7.6*	29.8	18.3	*-11.5*
	(0.46)	(0.41)	*(0.06)*	(1.30)	(1.01)	*(0.35)*
Social Services	44.4	35.6	*-8.8*	38.6	23.2	*-15.4*
	(0.47)	(0.44)	*(0.05)*	(1.48)	(1.14)	*(0.41)*
Infrastructure Development	75.6	69.6	*-6.1*	71.0	63.4	*-7.7*
	(0.52)	(0.58)	*(0.07)*	(1.72)	(1.86)	*(0.19)*
Neighborhood Security Group	66.9	64.9	*-2.0*	61.9	47.0	*-14.9*
	(0.97)	(0.98)	*(0.02)*	(3.35)	(3.27)	*(0.50)*
Cooperatives	9.1	5.8	*-3.4*	4.7	2.2	*-2.5*
	(0.48)	(0.36)	*(0.13)*	(0.56)	(0.29)	*(0.27)*

II. HIGH ETHNIC POLARIZATION

Activity	**Low Conflict Intensity Districts**			**High Conflict Intensity Districts**		
	"No Violence" Counterfactual	Mean Participation Probability	*Relative Difference: Violence to Peace (%)*	"No Violence" Counterfactual	Mean Participation Probability	*Relative Difference: Violence to Peace (%)*
Local Governance	42.2	39.2	*-3.0*	24.9	22.4	*-2.5*
	(0.78)	(0.77)	*(0.03)*	(0.69)	(0.65)	*(0.04)*
Social Services	52.9	48.1	*-4.8*	31.3	26.5	*-4.8*
	(0.82)	(0.81)	*(0.05)*	(0.77)	(0.70)	*(0.08)*
Infrastructure Development	74.0	73.0	*-1.0*	48.7	40.3	*-8.4*
	(0.89)	(0.91)	*(0.02)*	(0.87)	(0.84)	*(0.08)*
Neighborhood Security Group	76.7	70.2	*-6.5*	64.0	54.8	*-9.3*
	(1.02)	(1.14)	*(0.15)*	(1.63)	(1.69)	*(0.16)*
Cooperatives	15.1	14.2	*-0.9*	2.1	5.5	*3.4*
	(1.12)	(1.08)	*(0.05)*	(0.17)	(0.40)	*(0.23)*

Mean Estimations. Standard Errors in Parentheses.

Table 8: Ethnicity and the Impact of Group Participation Rates

DV: ***Participation***	*(1)* ***Governance***	*(2)* ***Social Service***	*(3)* ***Infrastructure***	*(4)* ***Security***	*(5)* ***Cooperatives***
Ethnicity Variables					
Population Share of one's own Ethnicity in the Village	0.48**	0.35*	0.38	0.39	0.36
	(0.012)	(0.070)	(0.111)	(0.199)	(0.499)
Relative Participation Shares Own vs. Other Ethnic Groups	0.60***	0.15	0.13	0.53	4.77***
	(0.000)	(0.277)	(0.591)	(0.116)	(0.000)
Index of Ethnic Polarization	0.37**	0.41**	0.22	0.30	0.65
	(0.037)	(0.022)	(0.381)	(0.301)	(0.176)
Conflict Variables					
Low Intensity: 1-9 Fatalities	-0.50***	-0.49***	-0.35***	-0.12	-0.60**
	(0.000)	(0.000)	(0.004)	(0.422)	(0.015)
High Intensity: ≥ 10 Fatalities	-0.89***	-0.91***	-0.41	-0.78*	-0.63
	(0.000)	(0.000)	(0.131)	(0.054)	(0.233)
IA: Low Intensity x High Polarization	0.32**	0.21	0.29	-0.30	0.86**
	(0.028)	(0.170)	(0.176)	(0.214)	(0.044)
IA: High Intensity x High Polarization	0.49*	0.52**	0.00	0.24	1.49**
	(0.051)	(0.043)	(0.996)	(0.599)	(0.024)
IA: Low Intensity x High Polarization x Rel. PA Share Own Ethnic Group	-0.12	0.80*	-0.26	-0.21	-2.87
	(0.722)	(0.093)	(0.672)	(0.736)	(0.310)
IA: High Intensity x High Polarization x Rel PA Share Own Ethnic Group	1.15**	1.89***	1.24	-2.03	1.88
	(0.030)	(0.003)	(0.118)	(0.235)	(0.492)

RE Logit Regression. Reported: coefficient estimates. Other than the variable on the relative participation share of the own ethnic group and the conflict interaction variables, the same control variables as in Table 5 are included.

Table 9: Participation Probabilities – by Relative Participation of the Own Ethnic Group

► HIGH ETHNIC POLARIZATION AND HIGH CONFLICT INTENSITY

Activity	*Relative Participation Share of own Group:* ***<0***		*Relative Participation Share of own Group:* ***[0, 0.25]***		*High Relative Participation of own Group: >0.25*	
	"No Violence" Counterfactual	Actual Participation Probability	"No Violence" Counterfactual	Actual Participation Probability	"No Violence" Counterfactual	Actual Participation Probability
Local Governance	26.2	19.4	24.6	20.9	34.6	36.1
	(1.04)	(0.89)	(1.10)	(1.02)	(1.98)	(1.99)
Social Services	30.6	20.9	32.3	29.0	40.3	44.4
	(0.96)	(0.75)	(1.40)	(1.34)	(2.41)	(2.50)
Infrastructure Development	45.4	34.0	53.7	47.3	45.4	46.8
	(1.08)	(0.95)	(1.50)	(1.51)	(2.51)	(2.64)
Neighborhood Security Group	66.0	59.5	61.1	48.0		
	(2.09)	(2.15)	(2.63)	(2.79)		
Cooperatives	1.5	3.2	2.3	5.7	7.7	20.5
	(0.15)	(0.31)	(0.38)	(0.87)	(1.04)	(2.20)

Mean Estimations. Standard Errors in Parentheses.

Table 10: Effects of Other Individual Characteristics in Conflict Areas

I. HIGHER EDUCATION

DV: ***Participation***	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*
	Governance	***Social Service***	***Infrastructure***	***Security***	***Cooperatives***
Low Intensity: 1-9 Fatalities	-0.096***	-0.103***	-0.051**	-0.051*	-0.018**
	(0.000)	(0.000)	(0.039)	(0.077)	(0.010)
High Intensity: ≥ 10 Fatalities	-0.092***	-0.130***	-0.130***	-0.100	-0.007
	(0.001)	(0.000)	(0.004)	(0.115)	(0.528)
IA: Low Intensity x Secondary Education or More	0.046	0.024	-0.007	0.014	0.019
	(0.121)	(0.556)	(0.859)	(0.780)	(0.230)
IA: High Intensity x Secondary Education or More	-0.002	0.009	0.077*	-0.015	0.080***
	(0.989)	(0.866)	(0.098)	(0.834)	(0.006)

II. LOW ASSETS

DV: ***Participation***	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*
	Governance	***Social Service***	***Infrastructure***	***Security***	***Cooperatives***
Low Intensity: 1-9 Fatalities	-0.089***	-0.116***	-0.061***	-0.054**	-0.015**
	(0.000)	(0.000)	(0.007)	(0.044)	(0.026)
High Intensity: ≥ 10 Fatalities	-0.094***	-0.146***	-0.046	-0.118**	0.018
	(0.000)	(0.000)	(0.262)	(0.039)	(0.166)
IA: Low Intensity x Low Assets (25^{th} per cent.)	0.015	0.081**	0.035	0.030	0.006
	(0.612)	(0.011)	(0.351)	(0.489)	(0.661)
IA: High Intensity x Low Assets (25^{th} per cent.)	0.000	0.094*	-0.163***	0.038	-0.014
	(0.966)	(0.091)	(0.007)	(0.614)	(0.353)

III. HIGH ASSETS

DV: ***Participation***	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*
	Governance	***Social Service***	***Infrastructure***	***Security***	***Cooperatives***
Low Intensity: 1-9 Fatalities	-0.095***	-0.091***	-0.070***	-0.044	-0.015**
	(0.000)	(0.000)	(0.003)	(0.110)	(0.029)
High Intensity: ≥ 10 Fatalities	-0.087***	-0.122***	-0.132***	-0.046	-0.003
	(0.001)	(0.000)	(0.003)	(0.408)	(0.831)
IA: Low Intensity x High Assets (25^{th} per cent.)	0.035	-0.031	0.055	-0.008	0.005
	(0.174)	(0.330)	(0.121)	(0.864)	(0.680)
IA: High Intensity x High Assets (25^{th} per cent.)	-0.020	-0.029	0.092**	-0.194**	0.054**
	(0.635)	(0.572)	(0.035)	(0.024)	(0.028)

Each pair of coefficients from a different regression (control variables as in Table 5). Reported: coefficient estimates.
P-values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 11: Linear RE Model: Estimates for the Ethnicity and Conflict Variables

DV: ***Participation***	*(1)* ***Governance***	*(2)* ***Social Service***	*(3)* ***Infrastructure***	*(4)* ***Security***	*(5)* ***Cooperatives***
*Conflict and Conflict*Ethnic Polarization-Interaction Variables*					
Low Intensity: 1-9 Fatalities	-0.07***	-0.08***	-0.05**	-0.02	-0.04***
	(0.000)	(0.000)	(0.017)	(0.397)	(0.009)
High Intensity: ≥ 10 Fatalities	-0.10***	-0.14***	-0.07	-0.14**	-0.03
	(0.000)	(0.000)	(0.185)	(0.029)	(0.283)
IA: Low Intensity x High Polarization	0.04**	0.04	0.03	-0.05	0.04
	(0.031)	(0.110)	(0.388)	(0.185)	(0.197)
IA: High Intensity x High Polarization	0.08***	0.10**	-0.05	0.06	0.11***
	(0.009)	(0.010)	(0.422)	(0.389)	(0.003)

Linear RE Regression. Reported: coefficient estimates. The same control variables as in Table 6 are included.
P-values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 12: Instrumental Variables: Estimates for the Ethnicity and Conflict Variables

DV: ***Participation***	*(1)* ***Governance***	*(2)* ***Social Service***	*(3)* ***Infrastructure***	*(4)* ***Security***	*(5)* ***Cooperatives***
*Conflict and Conflict*Ethnic Polarization-Interaction Variables*					
Low Intensity: 1-9 Fatalities	-0.16***	-0.17***	-0.11	-0.10	-0.07
	(0.000)	(0.002)	(0.281)	(0.308)	(0.160)
High Intensity: ≥ 10 Fatalities	-0.45***	-0.46***	-0.11	-0.09	-0.20**
	(0.000)	(0.004)	(0.553)	(0.648)	(0.032)
IA: Low Intensity x High Polarization	0.59***	0.65***	0.36	0.22	0.14
	(0.000)	(0.000)	(0.218)	(0.351)	(0.189)
IA: High Intensity x High Polarization	0.69***	0.69***	0.11	0.06	0.33***
	(0.000)	(0.001)	(0.658)	(0.827)	(0.006)

RE GLS Regression. Reported: coefficient estimates. The same control variables as in Table 6 are included.
Instruments included: (1): Share of neighboring districts with 1-9 conflict-related fatalities, (2): share of neighboring districts with 10 or more conflict-related fatalities; (3): IA (1)*high polarization; (4): IA (2)*high polarization; (5)-(8): squared terms of (1)-(4).
P-values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 13: Linear RE Model: Relative Participation of the Own Ethnic Group

DV: ***Participation***	*(1)* ***Governance***	*(2)* ***Social Service***	*(3)* ***Infrastructure***	*(4)* ***Security***	*(5)* ***Cooperatives***
*Conflict and Conflict*Ethnic Polarization-Interaction Variables*					
Low Intensity: 1-9 Fatalities	-0.06***	-0.08***	-0.05**	-0.02	-0.05***
	(0.000)	(0.000)	(0.015)	(0.425)	(0.009)
High Intensity: ≥ 10 Fatalities	-0.10***	-0.14***	-0.07	-0.13**	-0.03
	(0.000)	(0.000)	(0.169)	(0.043)	(0.292)
IA: Low Intensity x High Polarization	0.04**	0.04	0.04	-0.04	0.08**
	(0.045)	(0.145)	(0.265)	(0.233)	(0.019)
IA: High Intensity x High Polarization	0.06*	0.08**	-0.05	0.05	0.11***
	(0.069)	(0.036)	(0.393)	(0.503)	(0.007)
IA: Low Intensity x High Polarization x Rel. PA Share Own Ethnic Group	-0.01	0.13*	-0.04	-0.03	-0.19
	(0.892)	(0.084)	(0.715)	(0.728)	(0.431)
IA: High Intensity x High Polarization x Rel PA Share Own Ethnic Group	0.12*	0.29***	0.28*	-0.36	0.15
	(0.089)	(0.004)	(0.052)	(0.179)	(0.478)

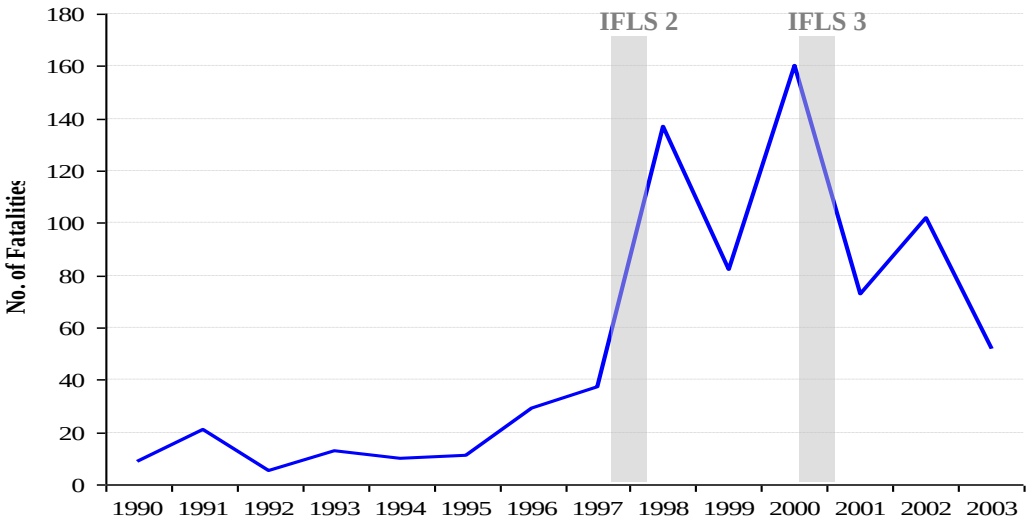
Linear RE Regression. Reported: coefficient estimates. The same control variables as in Table 8 are included.

Table 14: Instrumental Variables: Relative Participation of the Own Ethnic Group

DV: ***Participation***	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*
	Governance	***Social Service***	***Infrastructure***	***Security***	***Cooperatives***
*Conflict and Conflict*Ethnic Polarization-Interaction Variables*					
Low Intensity: 1-9 Fatalities	-0.16***	-0.17***	-0.11	-0.12	-0.02
	(0.000)	(0.001)	(0.249)	(0.242)	(0.811)
High Intensity: ≥ 10 Fatalities	-0.47***	-0.45***	-0.14	-0.07	-0.13
	(0.000)	(0.004)	(0.452)	(0.742)	(0.219)
IA: Low Intensity x High Polarization	0.58***	0.67***	0.41	0.30	0.14
	(0.000)	(0.000)	(0.143)	(0.155)	(0.180)
IA: High Intensity x High Polarization	0.70***	0.67***	0.15	0.04	0.28**
	(0.000)	(0.002)	(0.511)	(0.879)	(0.023)
IA: Low Intensity x High Polarization x Rel. PA Share Own Ethnic Group	0.16	0.03	-0.06	-0.12	-1.02
	(0.516)	(0.948)	(0.742)	(0.571)	(0.262)
IA: High Intensity x High Polarization x Rel PA Share Own Ethnic Group	0.18	0.49***	0.45**	-0.73	-0.54
	(0.113)	(0.002)	(0.014)	(0.319)	(0.169)

RE GLS Regression. Reported: coefficient estimates. The same control variables as in Table 8 are included.
Instruments included: (1): Share of neighboring districts with 1-9 conflict-related fatalities, (2): share of neighboring districts with 10 or more conflict-related fatalities; (3): IA (1)*high polarization; (4): IA (2)*high polarization; (5): IA (3)*Rel. participation own ethnic group; (6): IA (4)*Rel. participation own ethnic group;(7)-(12): squared terms of (1)-(6).
P-values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Figure 1: Total Number of Fatalities in the Sample, 1990-2003



Source: UNSFIR-II Database. Based on own calculations. The May Riots in Jakarta in 1998, which account for 1,188 fatalities, are excluded here.

Figure 2: Distribution of Fatal Violence in the Sampleof Districts (1998-1999)

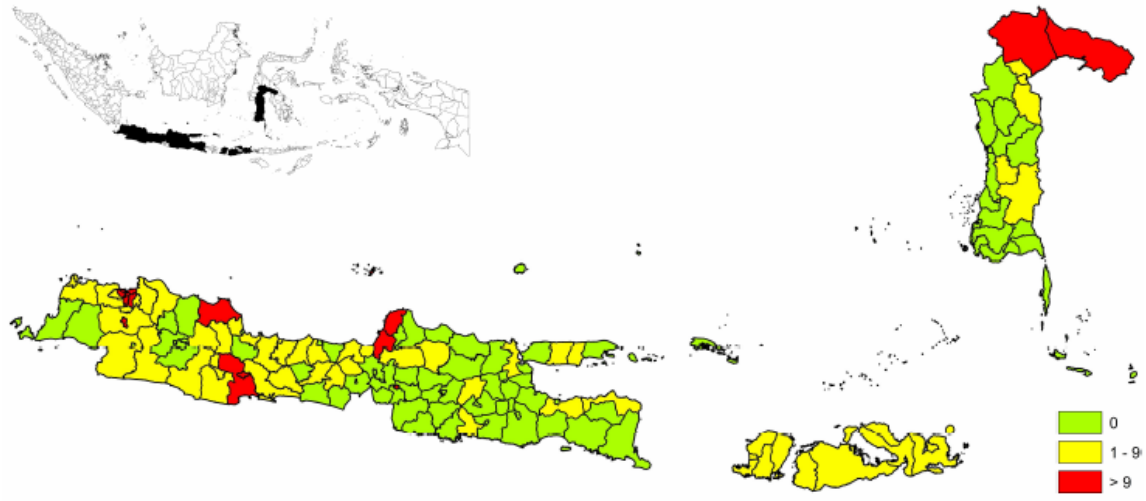


Table A1: Alternative Specifications – Conflict and Ethnic Polarization

I. SUB-SAMPLE: JAKARTA EXCLUDED

DV: ***Participation***	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*
	Governance	***Social Service***	***Infrastructure***	***Security***	***Cooperatives***
Low Intensity: 1-9 Fatalities	-0.106***	-0.115***	-0.057**	-0.032	-0.020**
	(0.000)	(0.000)	(0.012)	(0.294)	(0.025)
High Intensity: ≥ 10 Fatalities	-0.149***	-0.202***	-0.057	-0.235**	-0.025**
	(0.000)	(0.000)	(0.336)	(0.040)	(0.022)
IA: Low Intensity x High Polarization	0.074**	0.064	0.052	-0.029	0.025
	(0.041)	(0.107)	(0.190)	(0.600)	(0.342)
IA: High Intensity x High Polarization	0.178**	0.256***	-0.168	0.137**	0.249
	(0.022)	(0.001)	(0.173)	(0.048)	(0.123)

II. SUB-SAMPLE: JAVA ONLY

DV: ***Participation***	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*
	Governance	***Social Service***	***Infrastructure***	***Security***	***Cooperatives***
Low Intensity: 1-9 Fatalities	-0.104***	-0.108***	-0.071***	-0.025	-0.019**
	(0.000)	(0.000)	(0.002)	(0.661)	(0.028)
High Intensity: ≥ 10 Fatalities	-0.170***	-0.194***	-0.084	-0.171*	-0.023
	(0.000)	(0.000)	(0.107)	(0.055)	(0.248)
IA: Low Intensity x High Polarization	0.080**	0.052**	0.054	-0.065**	0.022
	(0.030)	(0.024)	(0.104)	(0.029)	(0.627)
IA: High Intensity x High Polarization	0.167***	0.159***	0.004	0.050	0.139**
	(0.003)	(0.005)	(0.856)	(0.482)	(0.012)

III. 5-FATALITIES THRESHOLD

DV: ***Participation***	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*
	Governance	***Social Service***	***Infrastructure***	***Security***	***Cooperatives***
Low Intensity: 1-4 Fatalities	-0.111***	-0.106***	-0.068***	-0.043	-0.017**
	(0.000)	(0.000)	(0.009)	(0.159)	(0.029)
High Intensity: ≥ 5 Fatalities	-0.081***	-0.160***	-0.091**	0.025	-0.027***
	(0.001)	(0.000)	(0.041)	(0.661)	(0.010)
IA: Low Intensity x High Polarization	0.072**	0.054	0.055	-0.044	0.020
	(0.031)	(0.155)	(0.165)	(0.405)	(0.356)
IA: High Intensity x High Polarization	0.077*	0.108**	0.010	-0.111	0.133**
	(0.081)	(0.038)	(0.852)	(0.197)	(0.045)

IV. CONTINUOUS INDICATOR: NUMBER OF FATALITIES

DV: ***Participation***	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*
	Governance	***Social Service***	***Infrastructure***	***Security***	***Cooperatives***
Number of Fatalities	-0.003*	-0.005**	-0.008***	-0.001	0.001
	(0.053)	(0.031)	(0.001)	(0.695)	(0.216)
Number of Fatalities *Squared*	0.000	0.000*	0.000***	0.000	0.000*
	(0.178)	(0.093)	(0.001)	(0.761)	(0.098)
Interaction Fatalities and Polarization	0.002*	0.002	0.001	0.000	0.000
	(0.094)	(0.133)	(0.310)	(0.852)	(0.511)

V. WHOLE SAMPLE (NOT RESTRICTED TO INFORMED INDIVIDUALS)

DV: ***Participation***	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*
	Governance	***Social Service***	***Infrastructure***	***Security***	***Cooperatives***
Low Intensity: 1-9 Fatalities	-0.060***	-0.106***	-0.065***	-0.033*	-0.008**
	(0.000)	(0.000)	(0.000)	(0.068)	(0.049)
High Intensity: ≥ 10 Fatalities	-0.086***	-0.176***	-0.075**	-0.099**	-0.017***
	(0.000)	(0.000)	(0.013)	(0.035)	(0.003)
IA: Low Intensity x High Polarization	0.086***	0.092***	0.024	0.028	0.005
	(0.000)	(0.002)	(0.319)	(0.196)	(0.426)
IA: High Intensity x High Polarization	0.141***	0.232***	0.045	0.192*	0.054*
	(0.001)	(0.000)	(0.349)	(0.062)	(0.078)

VI. ETHNIC FRAGMENTATION

DV: ***Participation***	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*
	Governance	***Social Service***	***Infrastructure***	***Security***	***Cooperatives***
Low Intensity: 1-9 Fatalities	-0.093***	-0.084***	-0.072**	-0.071*	-0.019*
	(0.000)	(0.001)	(0.028)	(0.096)	(0.054)
High Intensity: ≥ 10 Fatalities	-0.131***	-0.199***	0.034	-0.396***	-0.025*
	(0.000)	(0.000)	(0.613)	(0.008)	(0.059)
IA: Low Intensity x Ethnic HHI >0	0.015	-0.018	0.023	0.033	0.009
	(0.539)	(0.534)	(0.505)	(0.442)	(0.522)
IA: High Intensity x Ethnic HHI >0	0.075	0.137**	-0.173*	0.198***	0.122
	(0.192)	(0.039)	(0.075)	(0.003)	(0.141)

Each pair of coefficients from a different regression (control variables as in Table 5). Reported: coefficient estimates. P-values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table A2: The Effect of Relative Ethnic Participation Shares – All Conflict Areas

DV: ***Participation***	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*
	Governance	***Social Service***	***Infrastructure***	***Security***	***Cooperatives***
Population Share of one's own Ethnicity in the Village	0.47**	0.36*	0.35	0.42	0.32
	(0.014)	(0.060)	(0.139)	(0.164)	(0.553)
Relation Participation Shares Own vs. Other Ethnic Groups	0.67***	0.21	0.03	0.29	5.41***
	(0.000)	(0.167)	(0.926)	(0.438)	(0.000)
Index of Ethnic Polarization	0.61***	0.65***	0.37*	0.12	1.24***
	(0.000)	(0.000)	(0.079)	(0.607)	(0.003)
Low Intensity: 1-9 Fatalities	-0.40***	-0.44***	-0.28**	-0.24*	-0.17
	(0.000)	(0.000)	(0.010)	(0.054)	(0.469)
High Intensity: ≥ 10 Fatalities	-0.73***	-0.59***	-0.51***	-0.51**	0.30
	(0.000)	(0.000)	(0.008)	(0.035)	(0.415)
IA: Low Intensity x Rel. PA Own Ethnic Group	-0.26	0.07	0.15	0.47	-3.63
	(0.245)	(0.794)	(0.718)	(0.393)	(0.123)
IA: High Intensity x Rel PA Own Ethnic Group	1.33***	0.52	1.36*	-2.01	1.30
	(0.007)	(0.218)	(0.082)	(0.188)	(0.627)

RE Logit Regression. Other than the variable on the relative participation share of the own ethnic group and the conflict interaction variables, the same control variables as in Table 5 are included. Reported: coefficient estimates.
P-values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table A3: Socio-economic Characteristics of Participants: Group Means and Population Deviations

Variable	***Governance***	***Social Services***	***Infrastructure***	***Security Groups***	***Cooperatives***
Group Means					
Age	38.82	34.16	38.05	38.13	40.61
	(5.39)	(5.11)	(6.39)	(6.39)	(7.14)
HH Eq. Consumption	91.17	85.11	84.02	88.65	99.19
	(48.85)	(47.12)	(51.64)	(63.47)	(58.35)
Education Attainment (1-5)	2.88	2.68	2.88	2.79	3.14
	(0.64)	(0.61)	(0.71)	(0.72)	(0.81)
Average Difference from the Group Mean (absolute values)- PARTICIPANTS					
Age	9.92	8.67	10.69	9.49	7.52
	(7.32)	(6.77)	(7.65)	(6.99)	(6.11)
HH Eq. Consumption	42.84	38.94	37.30	39.15	40.33
	(57.94)	(53.29)	(52.48)	(53.79)	(51.06)
Education Attainment (1-5)	0.77	0.69	0.68	0.67	0.71
	(0.56)	(0.55)	(0.54)	(0.54)	(0.56)
Differences from the Group Mean (absolute values)- NON-PARTICIPANTS					
Age	13.84	13.83	14.84	16.99	14.02
	(8.69)	(9.44)	(8.81)	(8.83)	(9.44)
HH Eq. Consumption	44.49	43.29	48.79	49.15	54.56
	(57.21)	(80.87)	(64.99)	(74.63)	(64.63)
Education Attainment (1-5)	0.84	0.86	0.83	0.86	0.97
	(0.60)	(0.63)	(0.62)	(0.64)	(0.76)

Mean Values. Standard Deviations in Parentheses.